

NATIONAL

OS9

NEWSLETTER

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NATIONAL OS9 USERS GROUP NEWSLETTER

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OS9 is the shape of things to come!

Are any of you thinking of purchasing a Compatible machine in the near future? If you do you may be in for a big surprise! "Big Blue" has suddenly found that MESS-DOS is just that, and that the power of the now available processors has finally surpassed the operating system. Viola! Now to introduce OS/2. A new operating system that allows - wait for it - Multi Tasking (!!!) and guess what else - sharable devices and files. It seems that IBM have finally found that in order to fully utilise the power of the 80386 chip, they needed to develop their own version of UNIX. And now we're gonna tell 'em that we've had all this for years!

Seriously, though. The message is that we have here an operating system that is still as modern as tomorrow, but is affordable, and runs on an affordable machine. At least when we speak about the CoCo Version. I would be interested to have any feedback from those of you who are using, or know of anyone else who is using other versions of OS9 on machines other than the CoCo. It would really help in the production of this Newsletter to know whether or not we have aimed in the right direction as far as content is concerned.

Why is OS9 so good? Well let's examine why we are apparently so happy with the system.

OS9 certainly has potential. There is no doubt about that. OS9 is fun to play with. In fact, to some of us that is the main attraction. It is a hackers delight. But I think that it goes deeper than that. The final value of the system will be judged upon the systems ability to provide an environment in which we can either do useful work, or provide a mechanism by which people can continue to learn about computing systems.

And OS9 has the ability to do all of this. We can play games, we can use it for business, we can use it for software development. Such a diversity of uses it what really makes the system so valuable.

This issue is the usual potpourri of goodies. We have included some comments and code from Bob Devries regarding the use of and some mistakes in the C windowing functions. Bob has really put some effort into this project of his, and he should be congratulated for his efforts.

As promised in an earlier Newsletter, this issue we are including the Basic09 source code for a CoCo disk maintenance utility by Don Berrie called ZAP. As the source code is rather long, we will be only be able to publish it in two parts. The second, and final instalment will appear in next months newsletter. As you can see, we have formatted it into two columns to try to fit as much as we can onto the limited paper space that we have. The formatting is on a per page basis. That is, the right column on each page follows after the left column, and thence to the following page.

We have also included a review of a commercial OS9 game, which is sold by Tandy. This review has been written by Nickolas Marentes, the author of a number of commercial programmes.

In the next issue, we plan to have some notes on the topic of communication, particularly in relation to the use of a terminal for the CoCo. The ability to use your MS-DOS machine as a terminal running under OS9 on your CoCo will really use it much more effectively than it can be used running under its own operating system.

By now it should be a familiar plea. However, we cannot go on indefinitely producing this newsletter by using the efforts of just a few people. This is a NEWSLETTER and that means that we need your input. Without it the amount and the quality of the sheet must decline. So come on, share that small snippet. Send us that piece of code. Let's hear from some non-CoCo users about their machines.

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Multi-View and the C Programming language.

Boy, ain't we got fun! Here I was, a raw beginner at the art of C programming, and I thought I'd look at the whys and wherefores of using the C libraries that came with the Multi-View package. Well, to start off with, I thought that by following the examples in the manual, I couldn't go wrong. However, not only was I wrong, I was also led completely astray. Let me give you some examples of how far wrong you can get. The first thing I thought I'd try was to use some of the CGFX. LIB calls as documented in the manual. Did I come unstuck! The major reason for my sticky situation was that the manual mis-spelled several of the function names. For example, `_ss_umbar` is incorrect, it has more than 8 characters which is not allowed in our version of C. The correct spelling is `_ss_ubar`. When I found that the linker was spitting that one out as 'unresolved external', I decided that I should do a dump of the new CGFX library, and see what exactly was in it.

You use RDUMP for that, right? Wrong! It seems that the new library is set up differently so that the new linker RLINK can use them and the setup is different and RDUMP comes back with an error message to the effect that the file is not ROF. I ended up using a modified version of the programme 'LIB' from the user group library disks to read it. This gave me a file called 'modlist' which contained the names of all the cgfx functions, and their correct spellings of course. Please note that the C compiler is case sensitive.

Well, after trying several of the simpler graphics functions, I thought I'd try something a little more pretentious, and try a framed window with pull-down menus a-la multi-view. I read through the manual again, and started to write my little programme. All I wanted at first was to create the framed window on an existing graphics screen, but when I tried to compile it, the C compiler told me of errors in the file 'stdmenu.h'. After examining it and referring again to the C compiler manual, I found that the compiler does not allow macros to be longer than one line. The 'stdmenu.h' file is full of them!

I decided to do my own thing inside my programme. Using the mouse drivers was also an experience in that while the information in the multi-view manual is more or less correct, it leaves out some very important information and omits to mention one necessary function call to `_ss_gip` without which the mouse won't work at all. So after fighting with it for a while I conferred with Don Berrie on how he did his mouse drivers in Basic09 and there I found the missing call. After that session I worked out how to get the OS9 kernel to steer the graphics cursor around the screen with minimum of programming overhead. Now without further ado, here's the listing of the programme I have at this stage. Of course it was just a try out programme, and does not do anything at all except tell you what you selected.

```
#include <stdio.h>
#include <mouse.h>
#include <bufs.h>
#include <wind.h>

#define TRUE 1
#define FALSE 0
#define UPDATE 3
#define TIMEOUT 10
#define FOLLOW 1
#define MOUSESIG 10
#define TNDY_MN {'T','a','n','d','y','\0'}, MN_TNDY,10,9,1,0,0,_tanitms
#define FILE_MN {'F','i','l','e','s','\0'}, MN_FILE,10,7,1,0,0,_filitms
#define EDIT_MN {'E','d','i','t','\0'}, MN_EDIT,6,6,1,0,0,_editms
#define WXMIN 40
#define WYMIN 24
#define RESERVED {'\0','\0','\0','\0','\0','\0','\0'}
#define RESS {'\0','\0','\0','\0','\0'}
```

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```

MIDSCR_tanitms[] = {
    {{'C','a','l','c','\0'},1,RESS},
    {{'C','l','o','c','k','\0'},1,RESS},
    {{'C','a','l','e','n','d','a','r','\0'},1,RESS},
    {{'C','o','n','t','r','o','l','\0'},1,RESS},
    {{'P','r','i','n','t','e','r','\0'},1,RESS},
    {{'P','o','r','t','\0'},1,RESS},
    {{'H','e','l','p','\0'},1,RESS},
    {{'S','h','e','l','l','\0'},1,RESS},
    {{'C','l','i','p','b','o','a','r','d','\0'},1,RESS}
};

MIDSCR_filitms[] = {
    {{'N','e','w','\0'},1,RESS},
    {{'O','p','e','n','\0'},1,RESS},
    {{'S','a','v','e','\0'},1,RESS},
    {{'S','a','v','e',' ','A','s',' ',' ',' ','\0'},1,RESS},
    {{'A','b','a','n','d','o','n','\0'},1,RESS},
    {{'P','r','i','n','t','\0'},1,RESS},
    {{'Q','u','i','t','\0'},1,RESS}
};

MIDSCR_edtitms[] = {
    {{'U','n','d','o','\0'},1,RESS},
    {{'C','u','t','\0'},1,RESS},
    {{'C','o','p','y','\0'},1,RESS},
    {{'P','a','s','t','e','\0'},1,RESS},
    {{'C','l','e','a','r','\0'},1,RESS},
    {{'S','h','o','w','\0'},1,RESS}
};

MNDSCR_menus[] = {
    {TNDY_MN},
    {FILE_MN},
    {EDIT_MN}
};

WMDSCR_windat = {
    {'A','p','p','l','i','c','a','t','i','o','n','\0'},
    sizeof menus / sizeof menus[0],
    WXMN,
    WYMN,
    WINSYNC,
    RESERVED,
    menus
};

MSRET msinfo;
int sigcode;

sighandler(sig)
int sig;
{
    sigcode = sig;
}

main()
{
    char path = 1;
    char ch;
    int itemno;
    int quit = FALSE;

    setbuf(stdin,NULL);
    setbuf(stdout,NULL);
    CurOff(path);
    if (_ss_wset(path,WT_FWIN,&windat)<0)
        exit(errno);
    intercept(sighandler);

    SetGC(path,GRP_PTR,PTR_ARR);
    _ss_gip(path,1,1,255,255);
    _ss_mous(path,UPDATE,TIMOUT,FOLLOW);
    _ss_msig(path,MOUSSIG);

    sigcode = 0;
    do {
        _ss_msig(path,MOUSSIG);
        if (sigcode == 0)
            tsleep(0);
        if (sigcode == MOUSSIG)
        {
            sigcode = 0;
            _gs_mous(path,&msinfo);
            if (msinfo.pt_stat == WR_CNTRL)
            {
                switch(_gs_msel(path,&itemno))
                {
                    case MN_CLOS:
                        quit = TRUE;
                        break;
                    case MN_TNDY:
                        do_tandy_menu(itemno);
                        break;
                    case MN_FILE:
                        do_file_menu(itemno);
                        break;
                    case MN_EDIT:
                        do_edit_menu(itemno);
                        break;
                }
            }
            printf("%c",12);
        }
    } while (!quit);
}

```

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```

        SetGC(path,0,0);
        _ss_rel(path);
        CurOn(path);
        _ss_wset(path,WT_NBOX,&windat);
    }

do_tandy_menu(item)
int item;
{
    char ch;
    switch(item)
    {
        case 1:
            printf("%c%c%c Calc.",2,42,42);
            break;
        case 2:
            printf("%c%c%c Clock.",2,42,42);
            break;
        case 3:
            printf("%c%c%c Calendar.",2,42,42);
            break;
        case 4:
            printf("%c%c%c Control.",2,42,42);
            break;
        case 5:
            printf("%c%c%c Printer.",2,42,42);
            break;
        case 6:
            printf("%c%c%c Port.",2,42,42);
            break;
        case 7:
            printf("%c%c%c Help.",2,42,42);
            break;
        case 8:
            printf("%c%c%c Shell.",2,42,42);
            break;
        case 9:
            printf("%c%c%c Clipboard.",2,42,42);
            break;
    }
    printf("\n\n      Press any key...");
    ch = getchar();
    printf("%c",12);
}

do_file_menu(item)
int item;
{
    char ch;
    switch (item)
    {
        case 1:
            printf("%c%c%c New.",2,42,42);
            break;
        case 2:
            printf("%c%c%c Open.",2,42,42);
            break;
        case 3:
            printf("%c%c%c Save.",2,42,42);
            break;
        case 4:
            printf("%c%c%c Save As...",2,42,42);
            break;
        case 5:
            printf("%c%c%c Abandon",2,42,42);
            break;
        case 6:
            printf("%c%c%c Print.",2,42,42);
            break;
        case 7:
            printf("%c%c%c Quit.",2,42,42);
            break;
    }
    printf("\n\n      Press any key...");
    ch = getchar();
    printf("%c",12);
}

do_edit_menu(item)
int item;
{
    char ch;
    switch(item)
    {
        case 1:
            printf("%c%c%c Undo.",2,42,42);
            break;
        case 2:
            printf("%c%c%c Cut.",2,42,42);
            break;
        case 3:
            printf("%c%c%c Copy.",2,42,42);
            break;
        case 4:
            printf("%c%c%c Paste.",2,42,42);
            break;
        case 5:
            printf("%c%c%c Clear.",2,42,42);
            break;
        case 6:
            printf("%c%c%c Show.",2,42,42);
            break;
    }
    printf("\n\n      Press any key...");
    ch = getchar();
    printf("%c",12);
}

```

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ZAP

The following is the Basic09 source code for one of my favourite home-baked programmes, an OS9 Level 2 disk zapper. For those purists amongst you, I apologise for the spaghetti. However, by way of apology, I have to say that this project just grew, and grew, and grew! Consequently, it was written without much planning or attention to sensibilities. To have such things as line numbers etc. is archaic. However what you see is what you get. While the code was written using the data in the CoCo OS9 Level 2 Manual as reference material, I hope that it will function on any OS9 system. I will provide a complete description of the programme in the next newsletter.

Don Berrie.

```

PROCEDURE zap
BASE 0
DIM PAGE,PATH,wpath,fgnd,bgnd,bord:BYTE
DIM maxblock,ident,x,y,x1,y1:INTEGER
DIM title:STRING[40]
DIM CHOICE:STRING[25]
DIM outstr:STRING[18]
DIM NAME:STRING[4]
DIM DTA,NEWBYTE:BYTE
DIM COUNT,METER,BLKNO:REAL
DIM OFFSET,iblkno:INTEGER
DIM secdat(256):BYTE
DIM keypress:STRING[1]
DIM flag:BOOLEAN
flag=FALSE
fgnd=0
bgnd=1
bord=1
OPEN #wpath,"/w":UPDATE
RUN gfx2(wpath,"DWSET",2,0,0,80,24,fgnd,
bgnd,bord)
RUN gfx2(wpath,"SELECT")
1 fgnd=4
bgnd=5
RUN gfx2(wpath,"DWSET",1,0,0,80,24,fgnd,bgnd)
RUN gfx2(wpath,"DWSET",0,1,0,79,24,fgnd,bgnd)
x=0 \y=0 \x1=80 \y1=24
outstr=""
PAGE=0
PRINT #wpath,CHR$(50C)
RUN winopen(wpath,x,y,x1,y1)
PRINT #wpath,
PRINT #wpath," ";
title="## DISK MAINTENANCE UTILITY ##"
RUN header(wpath,title)
PRINT #wpath, \ PRINT #wpath,
PRINT #wpath," (c) 1988 D.A.Berrie"
PRINT #wpath,
PRINT #wpath," Version 1.10 88/08/07"
PRINT #wpath,

PRINT #wpath,"## USE WITH CARE - PERMANENT
CHANGES TO DISK STRUCTURE CAN BE MADE ##"
PRINT #wpath,
RUN getdev(wpath,NAME,PATH,secdat,maxblock,
ident)
PRINT #wpath,
RUN getsec(wpath,maxblock,BLKNO)
ON ERROR GOTO 100
10 METER=BLKNO*256
iblkno=BLKNO
COUNT=0
SEEK #PATH,1
GET #PATH,secdat
IF secdat(14)*256+secdat(15)<>ident THEN
x=6 \x1=40 \y=8 \y1=8
RUN winopen(wpath,x,y,x1,y1)
PRINT #wpath
PRINT #wpath," WARNING: DISK HAS BEEN
CHANGED! "
PRINT #wpath," Press any key to continue
";
GET #wpath,keypress
RUN winclose(wpath)
ENDIF
SEEK #PATH,METER
GET #PATH,secdat
CLOSE #PATH
11 RUN scn(wpath,NAME,iblkno,secdat)
IF flag=TRUE THEN
keypress="A"
flag=FALSE
GOTO 21
ENDIF
20 fgnd=0
bgnd=1
RUN gfx2(wpath,"DWSET",1,6,22,32,1,fgnd,bgnd)
RUN gfx2(wpath,"CROFF")
PRINT #wpath," A C D E H-help M N P Q <=>="
";
GET #wpath,keypress

```

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```

RUN gfx2(wpath,"CURDN")
RUN gfx2(wpath,"DWEND")
21 CHOICE=keypress
IF CHOICE="D" OR CHOICE="d" THEN
    x=5 \x1=30 \y=10 \y1=6
    RUN winopen(wpath,x,y,x1,y1)
    RUN getdev(wpath,NAME,PATH,secdat,maxblock,
ident)
    RUN getsec(wpath,maxblock,BLKNO)
    GOTO 10
ENDIF
IF CHOICE="C" OR CHOICE="c" THEN
    x=40 \x1=30 \y=1 \y1=22
    RUN winopen(wpath,x,y,x1,y1)
    RUN calc(wpath)
    RUN winclose(wpath)
    GOTO 20
ENDIF
IF CHOICE="Q" OR CHOICE="q" THEN
    PRINT #wpath,CHR$(50C)
    RUN gfx2(1,"SELECT")
    RUN gfx2(wpath,"DWEND")
    CLOSE #wpath
    END
ENDIF
IF CHOICE="A" OR CHOICE="a" THEN
    x=40 \x1=30 \y=1 \y1=23
    RUN winopen(wpath,x,y,x1,y1)
    RUN ascii(wpath,secdat,keypress)
    RUN winclose(wpath)
    IF keypress=CHR$(8) OR keypress=CHR$(9) THEN

        flag=TRUE
        ENDIF
    GOTO 21
ENDIF
IF CHOICE="M" OR CHOICE="m" THEN
    RUN change(wpath,iblkno,secdat,PATH,NAME)
    GOTO 20
ENDIF
IF CHOICE="E" OR CHOICE="e" THEN
    x=0 \y=0 \x1=80 \y1=24
    RUN winopen(wpath,x,y,x1,y1)
    RUN directory(wpath)
    RUN winclose(wpath)
    GOTO 20
ENDIF
IF CHOICE="H" OR CHOICE="h" THEN
    x=40 \y=1 \x1=30 \y1=22
    RUN winopen(wpath,x,y,x1,y1)
    RUN helpmess(wpath,keypress)
    RUN winclose(wpath)
    GOTO 21
ENDIF
IF CHOICE="N" OR CHOICE="n" THEN

    OPEN #PATH,NAME
    x=20 \y=12 \x1=40 \y1=5
    RUN winopen(wpath,x,y,x1,y1)
    RUN getsec(wpath,maxblock,BLKNO)
    GOTO 10
ENDIF
IF CHOICE=CHR$(9) THEN
    OPEN #PATH,NAME
    BLKNO=BLKNO+1
    IF BLKNO>maxblock THEN
        BLKNO=0
        GOTO 10
    ENDIF
    GOTO 10
ENDIF
IF CHOICE=CHR$(8) THEN
    OPEN #PATH,NAME
    BLKNO=BLKNO-1
    IF BLKNO<0 THEN
        BLKNO=maxblock
        GOTO 10
    ENDIF
    GOTO 10
ENDIF
IF CHOICE="P" OR CHOICE="p" THEN
25  x=25 \y=10 \x1=30 \y1=5
    COUNT=0
    RUN winopen(wpath,x,y,x1,y1)
    PRINT #wpath,"    Printing Sector ";
    ON ERROR GOTO 30
    OPEN #PATH,"/p"
    PRINT #PATH,"DEVICE : "; LEFT$(NAME,
LEN(NAME)-1); "    "; "SECTOR : ";
    PRINT #PATH USING "h4>",iblkno
    PRINT #PATH
    PRINT #PATH,"Rel  0 1 2 3 4 5 6 7 8 9 A B C
D E F      0 2  4  6 8 A C E"
    PRINT #PATH,"Addr  -----"
    -----"
    FOR i=0 TO 255
        IF COUNT=0 THEN
            PRINT #PATH USING "H2>",PAGE;
            PAGE=PAGE+1
            PRINT #PATH,"    ";
            ENDIF
            PRINT #PATH USING "h2>",secdat(i);
            COUNT=COUNT+1
            IF secdat(i)<$21 OR secdat(i)>$7A THEN
                outstr=outstr+","
            ELSE
                outstr=outstr+CHR$(secdat(i))
            ENDIF
        IF COUNT=16 THEN
            PRINT #PATH,"    "; outstr
            outstr=""

```


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```

COUNT=0
ENDIF
NEXT i
PRINT #PATH,CHR$(%0C)
CLOSE #PATH
PAGE=0
RUN winclose(wpath)
ENDIF
GOTO 20
END
30 errnum=ERR
RUN winclose(wpath)
IF errnum=246 THEN
x=25 \y=10 \x1=40 \y1=5
RUN winopen(wpath,x,y,x1,y1)
PRINT #wpath,"PLACE PRINTER ONLINE - PRESS A
KEY";
GET #wpath,keypress
keypress=""
RUN winclose(wpath)
GOTO 25
ENDIF
100 RUN closerr(wpath)
END

```

```

PROCEDURE helpmess
ON ERROR GOTO 100
PARAM wpath:BYTE
PARAM keypress:STRING[1]
DIM title:STRING[40]
PRINT #wpath," ";
title="DISK MANAGEMENT HELP"
RUN header(wpath,title)
PRINT #wpath,
PRINT #wpath,
PRINT #wpath,"A - Produces Ascii dump"
PRINT #wpath,"C - Calculator (Hex.)"
PRINT #wpath,"D - Change RBF Device"
PRINT #wpath,"E - Extended directory"
PRINT #wpath,"H - Produces this list"
PRINT #wpath,"M - Modify current sector"
PRINT #wpath,"N - Change sector number"
PRINT #wpath,"P - Hardcopy of sector"
PRINT #wpath,"Q - Quit program"
PRINT #wpath,"<= (left arrow) - change"
PRINT #wpath," to previous sector"
PRINT #wpath,"=> (right arrow) - change"
PRINT #wpath," to next sector"
PRINT #wpath,
PRINT #wpath,"Select Any Key";
GET #wpath,keypress
END
100 RUN closerr(wpath)
END

```

```

PROCEDURE scn
ON ERROR GOTO 100
BASE 0
PARAM wpath:BYTE
PARAM NAME:STRING[4]
PARAM iblkno:INTEGER
PARAM secdat(256):BYTE
DIM COUNT:REAL
DIM i:INTEGER
DIM PAGE:BYTE
DIM outstr:STRING[16]
PRINT #wpath,CHR$(%0C)
PAGE=0 \outstr=""
COUNT=0
PRINT #wpath,"DEVICE : "; LEFT$(NAME,
LEN(NAME)-1); " "; "SECTOR : ";
PRINT #wpath USING "H4>",iblkno
PRINT #wpath,
PRINT #wpath,"Rel 0 1 2 3 4 5 6 7 8 9 A B C D
E F "
PRINT #wpath,"Addr -----"
-----"
FOR i=0 TO 255
IF COUNT=0 THEN
PRINT #wpath USING "h2>",PAGE;
PAGE=PAGE+1
PRINT #wpath," ";
ENDIF
PRINT #wpath USING "h2>",secdat(i);
COUNT=COUNT+1
IF secdat(i)<%21 OR secdat(i)>%7A THEN
outstr=outstr+","
ELSE
outstr=outstr+CHR$(secdat(i))
ENDIF
IF COUNT=16 THEN
PRINT #wpath
COUNT=0
ENDIF
NEXT i
PRINT #wpath
END
100 RUN closerr(wpath)
END

PROCEDURE winopen
ON ERROR GOTO 100
PARAM wpath:BYTE
PARAM x,y,x1,y1:INTEGER
RUN gfx2(wpath,"owset",1,x,y,x1,y1,1,2)
RUN gfx2(wpath,"owset",1,x+1,y+1,x1-2,
y1-2,0,1)
RUN gfx2(wpath,"owset",1,x+2,y+2,x1-4,
y1-4,0,1)
x=0 \y=0 \x1=0 \y1=0

```


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```

END
100 RUN closerr(wpath)
END

PROCEDURE winclose
PARAM wpath:BYTE
ON ERROR GOTO 100
RUN gfx2(wpath,"owend")
RUN gfx2(wpath,"owend")
RUN gfx2(wpath,"owend")
END
100 RUN closerr(wpath)
END

PROCEDURE ascii
ON ERROR GOTO 100
BASE 0
PARAM wpath:BYTE
PARAM secdat(256):BYTE
PARAM keypress:STRING[1]
DIM i,count:INTEGER
DIM page:BYTE
DIM outstr:STRING[16]
outstr=""
page=0
count=0
PRINT #wpath,"      0 2 4 6 8 A C E"
PRINT #wpath,"      -----"
FOR i=0 TO 255
  IF count=0 THEN
    PRINT #wpath USING "h2>",page;
    page=page+1
    PRINT #wpath," ";
    ENDIF
  IF secdat(i)<$20 OR secdat(i)>$7A THEN
    outstr=outstr+"."
  ELSE
    outstr=outstr+CHR$(secdat(i))
  ENDIF
  count=count+1
  IF count=16 THEN
    PRINT #wpath,outstr
    outstr=""
    count=0
  ENDIF
NEXT i
PRINT #wpath,"Select A Key";
GET #wpath,keypress
END
100 RUN closerr(wpath)
END

PROCEDURE change
ON ERROR GOTO 100
BASE 0

```

```

PARAM wpath:BYTE
PARAM iblkno:INTEGER
PARAM secdat(256):BYTE
PARAM PATH:BYTE
PARAM NAME:STRING[4]
DIM x,y,x1,y1:INTEGER
DIM key:STRING[1]
DIM hex:STRING[2]
DIM a,b,c,d,ihex:INTEGER
DIM flag:INTEGER
DIM first:BOOLEAN
flag=0
a=5 \b=5 \c=5 \d=5
RUN gfx2(wpath,"curoff")
RUN gfx2(wpath,"CURXY",5,22)
RUN gfx2(wpath,"COLOR",0,1)
PRINT #wpath," 2-HEX-BYTES H-HELP W Q arrows
";
  RUN gfx2(wpath,"COLOR",4,5)
10 c=a \d=b
  RUN swopen(wpath,a,b,secdat)
  RUN gfx2(wpath,"owset",1,78,23,1,1,5,5)
  GET #wpath,key
  RUN gfx2(wpath,"owend")
11 hex=""
  first=FALSE
  IF key=CHR$(10) THEN
    b=b+1
    IF b=21 THEN
      b=5
    ENDIF
    RUN swclose(wpath,a,b,c,d,secdat)
    GOTO 10
  ENDIF
  IF key=CHR$(12) THEN
    b=b-1
    IF b=4 THEN
      b=20
    ENDIF
    RUN swclose(wpath,a,b,c,d,secdat)
    GOTO 10
  ENDIF
  IF key=CHR$(9) THEN
    a=a+2
    IF a=37 THEN
      a=5
      b=b+1
      IF b=21 THEN
        b=5
      ENDIF
    ENDIF
    RUN swclose(wpath,a,b,c,d,secdat)
    GOTO 10
  ENDIF
  IF key=CHR$(8) THEN

```

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```

a=a-2
IF a=3 THEN
  a=35
  b=b-1
  IF b=4 THEN
    b=20
  ENDIF
ENDIF
RUN swclose(wpath,a,b,c,d,secdat)
GOTO 10
ENDIF
15 IF ASC(key)>47 AND ASC(key)<58 OR ASC(key)>64
AND ASC(key)<71 OR ASC(key)>96 AND ASC(key)<103
THEN
  hex=hex+key
  IF first=TRUE THEN
    GOTO 16
  ENDIF
  first=TRUE
  key=""
  GET #wpath,key
  GOTO 15
16 secdat((a-5)/2+(b-5)*16)=VAL("%"+hex)
  flag=1
  RUN swopen(wpath,a,b,secdat)
  a=a+2
  IF a=37 THEN
    a=5
    b=b+1
    IF b=21 THEN
      b=5
    ENDIF
  ENDIF
  RUN swclose(wpath,a,b,c,d,secdat)
  GOTO 10
ENDIF
IF key="W" OR key="w" THEN
  RUN swclose(wpath,a,b,c,d,secdat)
  RUN gfx2(wpath,"curon")
  RUN modify(wpath,secdat,iblkno,
PATH,NAME,flag)
  END
ENDIF
IF key="Q" OR key="q" THEN
  GOTO 20
ENDIF
IF key="H" OR key="h" THEN
  RUN swclose(wpath,a,b,c,d,secdat)
  x=45 \y=1 \x1=30 \y1=22
  RUN winopen(wpath,x,y,x1,y1)
  RUN helpmess2(wpath,key)
  RUN winclose(wpath)
  GOTO 11
ENDIF
key=""

GOTO 10
20 key=""
RUN swclose(wpath,a,b,c,d,secdat)
IF flag=1 THEN
  x=10 \x1=60 \y=8 \y1=8
  RUN winopen(wpath,x,y,x1,y1)
  PRINT #wpath," NO CHANGES SAVED TO DISK
"
  PRINT #wpath,
  PRINT #wpath," Press Any Key to Continue"
  GET #wpath,key
  RUN winclose(wpath)
  ENDIF
  RUN gfx2(wpath,"CURXY",5,22)
  PRINT #wpath,"
";
  RUN gfx2(wpath,"curon")
  END
100 RUN closerr(wpath)
  END

PROCEDURE swopen
ON ERROR GOTO 100
BASE 0
PARAM wpath:BYTE
PARAM a,b:INTEGER
PARAM secdat(256):BYTE
RUN gfx2(wpath,"curxy",a,b)
RUN gfx2(wpath,"revon")
PRINT #wpath USING "h2>",secdat((a-5)
/2+(b-5)*16);
RUN gfx2(wpath,"curxy",a,b)
END
100 RUN closerr(wpath)
  END

PROCEDURE swclose
ON ERROR GOTO 100
BASE 0
PARAM wpath:BYTE
PARAM a,b,c,d:INTEGER
PARAM secdat(256):BYTE
RUN gfx2(wpath,"revoff")
RUN gfx2(wpath,"curxy",c,d)
PRINT #wpath USING "h2>",secdat((c-5)
/2+(d-5)*16);
RUN gfx2(wpath,"curxy",a,b)
END
100 RUN closerr(wpath)

```

KORONIS RIFT
SOFTWARE REVIEW

By Nickolas Marentes (CoCo3 Commercial Programmer)

GAME SCENARIO:

You are a 'Techno-Scavenger', one who makes a living searching for abandoned technological systems. From galaxy to galaxy you roam collecting technological "junk" for resale. Life's tuff! Suddenly, your instruments spring to life like they have never done so before. Radiation flux levels in the ten thousand range! Closer examination reveals that you have stumbled across the fabled "Koronis Rift". An ancient test ground for the most powerful weapons. On descending into the rifts, you drive your Surface Rover across the planet surface, tracking down abandoned "Hulks". Once found, you send you Repo-Tech droid to loot it and return with any useful systems. You must analyze each module, working out what each module is, how much energy it has, how much it's worth and determine if you can put it to use in your own Surface Rover for increased capabilities. Beware though, the planet is patrolled by Guardian Saucers which you must destroy or evade.

GAME PACKAGING:

The game comes very well presented in a professionally presented, colour box. Inside is a small well written booklet, a command card and a disk. Koronis Rift has been available for the Atari 400/800 and Commodore 64 computers before finally being released for the CoCo3. The documentation is designed for each computer with the command card being specific for the host system.

PROGRAM DEVELOPMENT:

The program is brought out by EPYX, a large U.S. software house who has mainly been supporting the Commodore 64 computer. The program is actually developed by a team called LUCASFILM LTD. which is the home computer software division of George Lucas's (Star Wars fame) special effects and film company. So, as you can see, Koronis Rift is no "backyard job". The CoCo3 version programmers are Edwin Rosenzweig and Ken Rogoway. The program runs under the CoCo3's OS-9 Level 2 system.

POSITIVE POINTS:

Good use of the OS-9 environment. Good use of the CoCo3's graphics (great title page!) making use of colour shades for added depth. Great game scenario of which much of the game terminology are trademarks of Lucasfilm Ltd.

NEGATIVE POINTS:

Sound is a bit on the minus side, especially when compared with the Atari and Commodore versions but this is a speed limitation when running under OS-9 and the CoCo3's lack of a dedicated sound chip.

CLOSING COMMENTS:

Great program! The program is good value for money when one considers the professionalism of packaging, depth of script and development of special Fractal algorithms for the planet terrain. One very unfortunate thing

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though, according to Tandy here in Australia, Koronis Rift is now a discontinued product! I for one am shocked that such good software, which hasn't had the chance to be marketed properly is being given the boot. I can think of other programs which Tandy are selling which I feel should be discontinued instead of this one (stay tuned for a future episode!). So, if you're planning on getting a new CoCo3 game, grab Koronis Rift before they completely disappear.

AVAILABLE: Tandy Electronics Stores
PRICE : \$52.46 (Discontinued price)
REQUIRES : 128K CoCo3 + Disk Drive

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The following is a list of system error messages which may be of use as an easily accessible reference :

089 ERROR MESSAGES

183 - Illegal window type	218 - File already exists
184 - Window already defined	219 - Illegal block address
185 - Font not found	220 - Data carrier detect lost
186 - Stack overflow	221 - Module not found
187 - Illegal argument	223 - Suicide attempt
188 - unused	224 - Illegal process number
189 - Illegal Coordinates	226 - No children
190 - Internal integrity check	227 - Illegal SWI code
191 - Buffer size too small	228 - Process aborted
192 - Illegal command	229 - Process table full
193 - Screen or Window table is full	230 - Illegal parameter area
194 - Bad/Undefined buffer number	231 - Known module
195 - Illegal window definition	232 - Incorrect module CRC
196 - Window undefined	233 - Signal error
197 - unused	234 - Non-existent Module
198 - unused	235 - Bad Name
199 - unused	236 - Bad module header
200 - Path tabl full	237 - RAM full
201 - Illegal path number	238 - Unknown process ID
202 - Interrupt poling table full	239 - No task number available
203 - Illegal mode	240 - Unit error
204 - Device table full	241 - Sector error
205 - Illegal module header	242 - Write protect
206 - Module directory full	243 - CRC error
207 - Memory full	244 - Read error
208 - Illegal service request	245 - Write error
209 - Module busy	246 - Not ready
210 - Boundary error	247 - Seek error
211 - End of file	248 - Media full
212 - Returning non-allocated memory	249 - Wrong type
213 - Non-existing segment	250 - Device ready
214 - No permission	251 - Disk ID change
215 - Bad path name	252 - Record is locked out
216 - Path name not found	253 - Non-sharable file busy
217 - Segment list full	254 - I/O deadlock error